

WHAT IS CLAIMED IS:

1. A method for encoding digital information, the method comprising
identifying a target code word that represents at least a portion of the digital
information;
determining a set of a plurality of code words, wherein the set includes the target
code word; and
selecting an index, wherein the index indicates the determined set.
2. The method of claim 1, further comprising
defining a plurality of sets of code words.
3. The method of claim 2, further comprising
defining a partition of sets of code words.
4. The method of claim 1, further comprising
deriving a check value from the target code word.
5. The method of claim 1, wherein the target code word indicates one or more pixel
values in digital video information.
6. The method of claim 1, wherein the target code word indicates a macro block in
a frame of digital video information.
7. The method of claim 1, further comprising
quantizing the target code word.
8. The method of claim 7, wherein the digital information includes digital video
information including frames and wherein the target code word is encoded using intra-coding
within a given frame of the digital video information.

9. The method of claim 8, further comprising
using motion prediction is used to determine a correlation noise value; and
using the correlation noise value to partition a plurality of code word values into a
plurality of sets.

10. The method of claim 1, further comprising
transforming at least a portion of the digital information from a spatial domain into
a frequency domain.

11. The method of claim 10, wherein the step of transforming includes a substep of
using a discrete cosine transform.

12. The method of claim 1, further comprising
classifying blocks of the digital information for subsequent processing.

13. The method of claim 12, further comprising
skipping encoding a block in response to the step of classifying blocks.

14. The method of claim 12, further comprising
intra-coding a block in response to the step of classifying blocks.

15. The method of claim 12, further comprising
performing varying degrees of encoding in response to the step of classifying
blocks.

16. The method of claim 15, wherein 16 different classifications are used, including
skipping, intra-coding and 14 syndrome coding classes.

17. An apparatus for encoding digital information, the apparatus comprising
a process for identifying a target code word that represents at least a portion of the
digital information;
a process for determining a set of a plurality of code words, wherein the set includes
the target code word; and
a process for selecting an index, wherein the index indicates the determined set.

18. A computer-readable medium including instructions for encoding digital information, the computer-readable medium comprising
 - one or more instructions for identifying a target code word that represents at least a portion of the digital information;
 - one or more instructions for determining a set of a plurality of code words, wherein the set includes the target code word; and
 - one or more instructions for selecting an index, wherein the index indicates the determined set.
19. A method for decoding encoded digital information, the method comprising receiving an index;
using the index to determine a set of candidate code words;
inferring a set of cues;
determining a target code word by operating on the code words in the set with a cue;
and
using the target code word in a decoding operation.
20. The method of claim 19, further comprising determining whether an operation with a cue performed on a code word produces a value that is in agreement with a check value.
21. The method of claim 19, wherein the cue includes a motion-based predictor.
22. The method of claim 21, wherein the step of inferring a cue includes a substep of deriving the motion-based predictor.
23. The method of claim 22, wherein the encoded digital information includes blocks of video information, the method further comprising decoding the encoded digital information by using the predictor and one or more code words.

24. The method of claim 23, further comprising
estimating the best way to decode the encoded digital information by using the predictor and the one or more code words.

25. An apparatus for decoding encoded digital information, the apparatus comprising

- a process for receiving an index;
- a process for using the index to determine a set of candidate code words;
- a process for inferring a set of cues;
- a process for determining a target code word by operating on the code words in the set with a cue; and
- a process for using the target code word in a decoding operation.

26. A computer-readable medium including instructions for decoding encoded digital information, the computer-readable medium comprising

- one or more instructions for receiving an index;
- one or more instructions for using the index to determine a set of candidate code words;
- one or more instructions for inferring a set of cues;
- one or more instructions for determining a target code word by operating on the code words in the set with a cue; and
- one or more instructions for using the target code word in a decoding operation.

27. A method for transferring information, the method comprising
using an encoder to generate and send a first stream encoded at a first complexity level to a first decoder; and

using the encoder to generate and send a second stream encoded at a second complexity level to a second decoder.

28. The method of claim 27, wherein the encoder generates the streams at different complexity levels in response to a signal from a network.

29. The method of claim 27, wherein the information is transferred over a network, wherein the network includes processing resources, the method further comprising using the network's processing resources to decode and then encode at least one of the streams prior to receipt of the stream at a decoder.

30. A method for sharing processing complexity between an encoding process and a decoding process, wherein the encoding process and the decoding process each use an index for a target codeword, a check value for the target codeword and a set of candidate cues, the method comprising

using the encoder to perform the following steps:

selecting some cues from the set of candidate cues;

operating these cues on the indexed set of codewords;

generating a check value as a result of the operating step;

determining whether the check value matches the check value for the target codeword;

signaling whether the chosen cues were successful in determining the correct codeword to the decoder;

using the decoder to perform the following steps:

selecting other cues from the set of candidate cues;

operating these cues on the indexed set of codewords based on the signal determined by the encoder;

generating a check value as a result of the operating step;

determining whether the result of the operating step produces a value that is in agreement with the check value for the target codeword

31. The method of claim 30, wherein the encoding process does not use any of a set of candidate cues corresponding to a lower complexity level, wherein the decoding process uses all of a set of candidate cues corresponding to a higher complexity level.

32. The method of claim 30, wherein the encoding process uses all of a set of candidate cues corresponding to a higher complexity level, wherein the decoding process uses one of a set of candidate cues corresponding to a lower complexity level.

33. The method of claim 19, wherein the encoded digital information corresponds to a source that can be compressed by predictive coding, wherein the decoder includes two or more cues that produce a value that is in agreement with the check value to result in successful recovery of the target codeword.